DOC questionnaire

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DOC questionnaire: measuring how GPs and medical specialists rate collaboration

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Abstract

Purpose – This paper aims to assess the validity of a questionnaire aimed at assessing how general practitioners (GPs) and specialists rate collaboration.

Design/methodology/approach – Primary data were collected in The Netherlands during March to September 2006. A cross-sectional study was conducted among 259 GPs and 232 specialists. Participants were randomly selected from The Netherlands Medical Address Book. Specialists rarely contacting a GP were not invited to participate.

Findings – Exploratory factor analysis indicated that the questionnaire, consisting of 20 items, measured five domains: organisation; communication; professional expertise; image; and knowing each other. Cronbach's alpha coefficients ranged from 0.64 to 0.83 indicating sufficient internal consistency. Correlation coefficients between domains were all <0.4. All but "communication" clearly produced distinguishing scores for different respondent groups.

Research limitations/implications – This study shows that the doctors' opinions on collaboration (DOC) questionnaire is valid and that it may have the potential to give feedback to both medical professionals and policy makers. Such feedback creates an opportunity to improve collaboration.

Originality/value – The DOC questionnaire is a useful instrument for assessing collaboration among GPs and specialists. It can provide feedback to both medical professionals and policy makers. Such feedback creates an opportunity to improve collaboration.

Keywords Health services, Quality assurance, General practitioners, The Netherlands

Paper type Research paper

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Introduction

A healthcare system in which the general practitioner (GP) is the first contact and gatekeeper for limited and relatively expensive specialist care is greatly influenced by the manner in which GP and specialist work together. For this reason, collaboration between these two medical disciplines has received attention over the last decade. Research from several countries indicates that patients value a solid working relationship between GPs and specialists and that this relationship needs improvement (Berendsen *et al.*, 2009; Schoen *et al.*, 2007). So far though, relatively little research has focused on this collaboration and how it may be improved. Cooperation between GPs and specialists was qualitatively researched nine years ago by Marshall and later-on, quantitatively by Marshall (1998a, b, 1999), Marshall and Phillips (1999). In his research, Marshall focused on the relationship between GP and specialist regarding image formation; organisation and communication, on the other hand, were not extensively addressed. The study resulted in 12 validated questions, which did not offer recommendations for improvement, however.

Other research among GPs and specialists was aimed at:

- how communication may be optimised (Salerno *et al.*, 2007);
- collaboration aspects such as referral (Bowling and Redfern, 2000); and
- correspondence (Garasen and Johnsen, 2007; Glintborg *et al.*, 2007).

Specifics like the following are also relevant:

- pharmaceutical agreements (Kasje *et al.*, 2004);
- referrals among specialists (Bridger and Cairns, 1996);
- hospital at home (Berendsen *et al.*, 2002; Hood *et al.*, 1999);
- specialist groups such as gastroenterologists (Cardin *et al.*, 2004);
- physician attitudes towards medical guidelines (Dijkstra *et al.*, 2000); and
- GP gatekeeper role (Pena-Dolhun *et al.*, 2001).

The literature clearly shows the lack of robust instruments to measure GP and specialist collaboration. Consequently, we developed an instrument based on our earlier, qualitative studies (Berendsen *et al.*, 2006, 2007). Its goal was to assess how GPs and specialists rate mutual collaboration regarding organisation; communication; professional expertise; image and the value of knowing each other. In this article we describe the doctors' opinions on collaboration (DOC) instrument. In future, DOC may be used to evaluate innovative care projects across primary/secondary interfaces between GPs and specialists. As far as we know, this is the first time a questionnaire, addressing collaboration, was completed by both GPs and specialists. Our main research question, therefore, is "what is the validity of a questionnaire aimed at assessing how GPs and specialists rate the quality of mutual collaboration?"

Methods

Questionnaire validity was assessed in a cross-sectional study among GPs and specialists. Our earlier qualitative, explorative research defined six domains essential to the questionnaire: general; organisation; communication; professional expertise; image; and knowing each other (Berendsen *et al.*, 2006, 2007). Based on this layout,

questions were formed in the shape of positive and negative statements rated on a five-point scale (1 = completely agree to 5 = completely disagree). The statements focused on evaluating collaboration. To improve face and content validity, the question list was presented to a number of The Netherlands key figures (GPs and specialists). Questionnaire applicability – understanding, syntax, and time span – also was tested by 12 doctors. The initial questionnaire included 33 items divided onto six domains mentioned above. In a pilot study, the instrument was further tested with a random sample including 148 GPs and specialists in The Netherlands. Consequently, factor analysis, item analysis and reliability tests removed seven items from the instrument, leaving 26 statements. This final list was used in the present study.

Statements were the same for GPs and specialists. The "general" domain included items on collaboration. "Organisation" incorporated statements on delays, waiting lists and patient care after hospital discharge. "Communication" consisted of input and colleague attitude statements when consulting on the phone. "professional expertise" concerned issues like willingness to educate or learn from each other and the possibility of improving referral between GP and specialist. "Image" was used to asses how secure physicians feel when dealing with each other and, finally, the importance of "knowing each other" was addressed. Besides these issues, the list also contained questions concerning respondent characteristics such as: age; gender; medical specialty; office setting; experience; whether a trainer; and employment type. To ease analysis, specialties were reduced to three broad groups: physicians; surgeons; and supporting specialists. This 26 item questionnaire was presented to a sample of 550 GPs and 533 specialists randomly selected from The Netherlands Medical Address Book. A total of 47 percent of the GPs ($n = 259$) and 44 percent of the specialists ($n = 232$) replied. Specialists hardly contacting a GP, like nuclear physicians and anaesthesiologists, were not invited to participate. Before the questionnaire was posted, each addressee received an alert about the study. Non-respondents were reminded by letter. This whole procedure was repeated a month later for non-respondents.

Analysis

General practitioner and specialist answer sheets were combined. Positively posed statement ratings were inverted so that high scores yielded positive judgements. First, answer distributions was compared. During factor analysis, factors were rotated according to the Varimax criterion (based on the scree plot). Factor loadings > 0.4 were considered important. Explained factor variance was calculated and subscales were constructed based on factor loadings. Subscale internal consistency was checked by correlating each item score with the total score minus the item score (item-rest correlation). We also calculated Cronbach's alpha coefficients; reliability coefficients larger than 0.6 were considered acceptable (Nunnally, 1967; Streiner and Norman, 2003). Discriminative ability was tested by calculating differences between respondent groups. This testing was conducted through analysis of variance (ANOVA) and the t-test. To assess construct validity, we tested hypotheses generated from our qualitative research (Berendsen *et al.*, 2006, 2007):

H1. Specialists are willing to educate GPs who want to learn from specialists.

H2. Specialists are less interested in learning from GPs though GPs would like to educate them as well.

H3. A difference in status is still felt, while older GPs seem to feel status less.

H4. Both disciplines find it vital to know each other.

Findings

We conducted our study between March and September 2006. The sample GPs' mean age was 50 years (SD 6.7) and the specialists 51 years (sd 7.6). Gender, practical experience, office setting, employment type and specialities are listed in Tables I and II.

Factor analysis and item analysis

Six factors produced the best results, explaining 55 percent of the total variance. The domains: general; organisation; communication; professional expertise; image, and knowing each other were tested. The latter four were clearly distinguished (factor loading >0.4). The "general" and "organisation" domains loaded on two factors. Therefore, it was decided to join them into one domain (organisation). Based upon a low item-rest correlation, the new domain "organisation" was reduced from eight to seven items (Cronbach's alpha 0.73); "communication" from four to three items (Cronbach's

	GP	National	Specialist	National
n	264		232	
Mean age (SD)	50 (6.7)	47.4	51 (7.6)	41% > 50
Female (%)	33	34	21	26
Years of practice experience P50 (P25-P75)	20 (13-26)	[a]	16 (9-24)	[a]
Days a week of patient care P50 (P25-P75)	4 (3-5)	[a]	4 (3-5)	[a]
Trainers (%)	38	[a]	22	[a]
Employed in (%)				
City area	46	43		
Semi-urban area	38	43		
Rural area	16	13		
University hospital			26	[a]
Leading general hospital			29	[a]
Peripheral hospital			45	[a]
Type of practice (%)				
Single handed	29	25		
Twin	30	30		
Health centre	41	45		
Outpatient department			20	[a]
Clinic			3.1	[a]
Both			77	[a]
Type of employment (%)				
Self-employed	85	90		
Paid employment	15	10		
Self-employed			47	50
Paid employment			53	50

Note: [a]Data not available

Table I. Respondent characteristics

	Respondents	%	Registered specialists	%
Physicians				
Psychiatrist	30	13.0	2773	16.9
Internist	29	12.6	2228	13.6
Paediatrician	28	12.1	1347	8.2
Cardiologist	12	5.2	821	5.0
Neurologist	12	5.2	782	4.8
Rehabilitation doctor	9	3.9	407	2.5
Pulmonologist	6	2.6	485	3.0
Dermatologist	5	2.2	438	2.7
Clinical geriatrician	3	1.3	149	0.9
Allergologist	1	0.4	22	0.1
Rheumatologist	1	0.4	222	1.4
	136	58.9		59.1
Surgeons				
Ophthalmic surgeon	16	6.9	668	4.1
Gynaecologist	14	6.1	970	5.9
General surgeon	11	4.8	1218	7.4
Urologist	8	3.0	361	2.2
Orthopaedic surgeon	5	2.2	593	3.6
Orofacial surgeon	4	1.7	211	1.3
Plastic surgeon	4	1.7	252	1.5
ENT doctor	6	2.6	493	3.0
Thoracic surgeon	2	0.9	130	0.8
	70	29.9		29.8
Support specialists				
Radiologist	11	4.8	986	6.0
Radio therapist	7	3.0	227	1.4
Microbiologist	4	1.7	227	1.4
Pathologist	3	1.3	377	2.3
	25	10.8		11.1
Total	231	100.0	16.397	100.0
Missing	1			
Total	232			

Table II.
Medical specialties

alpha 0.66), and "professional expertise" from five to four items (Cronbach's alpha 0.64). The "image" domain was unchanged and included three items (Cronbach's alpha 0.78). "Knowing each other" comprised six items (Cronbach's alpha 0.9). Owing to redundancy and a wish to keep the list concise, three items were deleted from this domain (Cronbach's alpha 0.83), after which the definitive questionnaire comprised 20 items. Item correlations are shown in Table III. The correlation coefficients between the domains are all < 0.4 (Table IV).

Comparing GP and specialists answering category per item in the "organisation" domain, GPs rate collaboration among specialists poorer than specialists. Specialists rate their care after hospital discharge higher than GPs. General practitioners are more pessimistic about delays and waiting lists. Regarding "professional expertise", about 50 percent of GPs and specialists wish to improve referral quality between GPs and specialists.

Statements	GP agree (%) $n = 264$	Specialist agree (%) $n = 232$	Item-rest correlation	Cronbach's alpha
Organisation				0.73
I think I work well with GPs/specialists	69.9	73.2	0.41	
I think mutual collaboration among specialists is good	21.3			
I think mutual collaboration among specialists is good in the hospital I work at		74.8	0.49	
Delay: time span between GP's referral and first consult with the specialist				
I think current delay for patients is too long in general	66.7	27.9	0.52	
I succeed in avoiding problems concerning delay by having solid agreements with specialists	41.6			
I succeed in avoiding problems concerning delay by having solid agreements with GPs		48.1	0.40	
Waiting list: time span between first consult with the specialist and follow-up (treatment/ investigation)				
I think present waiting lists are too long in general	63.2			
I think present waiting lists are too long for my patients in general		32.3	0.56	
In general, I have solid agreements with specialists about when they refer patients between themselves	23.7			
In general, I have solid agreements with GPs about when I do and do not refer patients to another specialist		29.6	0.31	
In general, the care patients receive after discharge is well-organised by the specialist	24.8			
The care patients receive after discharge is well-organised by me		71.7	0.46	
Communication				0.66
In general, I think the input of specialist/GP during telephone consults is of good quality	91.0	78.0	0.48	
I perceive the approach specialist/GP take during telephone consults as positive	87.9	92.5	0.54	
I appreciate feedback from the specialist/GP on the way I handle cases	94.9	89.0	0.40	
Professional expertise				0.64
I want to have better insight into how the specialist works	42.6		0.36	
I want the GP to have better insight into how I work		60.8		
I want the specialist to have better insight into how I work	72.0		0.45	
I want to have better insight into how the GP works		35.4		
I want to improve the quality of the content of my referrals	55.9		0.43	

(*continued*)

Table III.
DOC questionnaire

Statements	GP agree (%) $n = 264$	Specialist agree (%) $n = 232$	Item-rest correlation	Cronbach's alpha
I think the quality of the content of referrals from primary to secondary care should be improved		51.6		
I think the quality of the content of the referral back to the GP should be improved	51.6		0.46	
I want to improve the quality of the content of my referrals back to the GP		47.3		
Image				0.78
I feel confident in my working relationship with specialists/GPs	80.6	86.4	0.60	
I feel appreciated in my working relationship with specialists/GPs	66.3	80.7	0.70	
I feel specialists/GPs look down on me	9.3	0.9	0.56	
Knowing each other				0.83
When I know a specialist/GP personally, we gain better insight into each others work	87.8	75.0	0.75	
When I know a specialist/GP personally, contacts become easier and more accessible	96.9	82.5	0.66	
When I know a specialist/GP personally, I gain more insight into his/her medical expertise	75.3	63.6	0.66	

Table III.

Notes: Five-point scale (1 = completely to agree; 5 = completely disagree); agree = 4+5

	Organisation	Communication	Professional expertise	Image
Communication	0.13			
Professional expertise	−0.07	0.13		
Image	0.31	0.35	0.01	
Knowing each other	−0.07	0.10	0.29	0.03

Table IV.
Factor correlation coefficients

Validation

Table V shows the differences between GPs and specialists.

Organisation

Specialists scored significantly higher; i.e. their views on how they are organised are more positive than GPs' perceptions ($p < 0.0005$). The ANOVA showed there were no significant difference between specialist workplaces (university, leading general or peripheral hospital; $p = 0.27$). Specialists in each setting were significantly more positive than GPs ($p < 0.0005$).

Communication

Both GPs and specialists scored highly; i.e. both view mutual communication positively. No significant difference was found between groups ($p = 0.556$).

Professional expertise
General practitioners were significantly more positive about their willingness to educate or learn from each other and improving referrals between GP and specialist than specialists ($p = 0.025$). A significant difference was also found between trainers and non-trainers; both GP and specialist trainers were more positive ($p = 0.007$). The difference between trainer/non-trainer and GP/specialist was not significant ($p = 0.26$). So, the size of the difference between trainer and non-trainer does not differ between GPs and specialists.

Image
Specialists have significantly higher scores than GPs ($p < 0.0005$); i.e. they view themselves more positively regarding mutual collaboration. Differences hold for physicians, surgeons and supporting specialists ($p = 0.001$; $p < 0.0005$; and $p = 0.001$ respectively). No significant difference, on the other hand, was found between specialists groups. For GPs, correlation between this domain's scores and age was low ($r = 0.2$), as well as experience ($r = 0.21$). No correlation was found in the specialists' groups.

Knowing each other
General practitioners had significantly more positive scores in this domain than specialists ($p < 0.0005$); obviously, they value knowing each other more. The ANOVA showed that specialists working in university hospitals significantly differ in opinion (lower scores) to both GPs ($p < 0.0005$) and specialists in peripheral hospitals ($p = 0.02$).

Discussion

The 44 and 47 percent response rates were low. However, concerning age, gender, experience, work setting and employment type, our results reflect Netherlands GP and specialist distribution (Capaciteitsorgaan, 2005; Muysken *et al.*, 2006). This is also true for speciality distribution. Our study was conducted in The Netherlands, where GPs function as gatekeepers between patient and specialist.

Our results made it possible to highlight several domains with low inter-correlations. The internal consistency is sufficient to compare respondent groups. Further analysis shows that "organisation", "professional expertise", "image" and "knowing each other" clearly produce distinguishing scores for groups with different characteristics (such as GPs vs specialists, trainers vs non trainers). Though the differences are highly significant, one should keep in mind that the "professional

	GP		Specialist		
	Mean	SD	Mean	SD	p-value
Organisation	2.8	0.6	3.5	0.7	<0.0005
Communication	4.3	0.5	4.2	0.6	0.556
Professional expertise	3.5	0.6	3.4	0.8	0.025
Image	3.9	0.7	4.3	0.6	<0.0005
Knowing each other	4.4	0.7	4.0	0.9	<0.0005

Table V.
Differences between GPs and specialists

expertise" effect size is moderate. Communication's discriminative ability was poor, which will need further study.

The more positive view specialists have on "organisation" could be explained by the many questionnaire statements that deal with issues relating to specialist care access. As outsiders, GPs possibly have a more negative outlook on access and wish to see it improved. General practitioners are also more pessimistic about collaboration among specialists than specialists themselves. An American study showed that limited communication between specialists can indeed cause patient care problems (Arora *et al.*, 2005). When implementing improvements, difference in collaboration perceptions will have to be taken into account. If an incident is not viewed as problematic then motivation to change is low.

General practitioners had higher "professional expertise" scores. This confirms our qualitative research findings (Berendsen *et al.*, 2006, 2007). Specialists were less interested to learn from GPs, whereas GPs were eager to learn from them. The difference in "image" perception in our study was also demonstrated in our qualitative research. Specialists do not consider GPs their equals. Older GPs appear to feel this less, though. Our qualitative research indicated that both GPs and specialists feel it is important to know each other (Berendsen *et al.*, 2006, 2007). Other studies show there is no substitute for direct personal contact between consultant and primary physician (Salerno *et al.*, 2007). This quantitative research, however, showed that university hospital specialists believe that knowing each other is less important. In larger organisations, physicians probably rely more on other referring medical specialists. Also, university hospital complex structures and processes demand more attention from specialists.

Conclusions

Face and content validity were successfully achieved. Construct validity was supported by confirming our four hypotheses. The validation process should be completed with data about test-retest reliability, responsiveness and other aspects of construct validity (convergent and divergent). This study shows that the DOC questionnaire is valid and that it may have the potential to give feedback to both medical professionals and policy makers. Such feedback creates an opportunity to improve collaboration. It is important to keep the differences between groups in mind so that it can be assessed whether they are properly motivated to implement certain changes. Improvements can facilitate collaboration, enhance job satisfaction and strengthen patient care.

References

Arora, V., Johnson, J., Lovinger, D., Humphrey, H.J. and Meltzer, D.O. (2005), "Communication failures in patient sign-out and suggestions for improvement: a critical incident analysis", *Quality and Safety in Health Care*, Vol. 14 No. 6, pp. 401-7.

Berendsen, A.J., Schuling, J. and Meyboom-de Jong, B. (2002), "Hospital care at home; a review of the literature on the effects of a form of transmural care", *Nederlands tijdschrift voor geneeskunde*, Vol. 146 No. 48, pp. 2302-8.

Berendsen, A.J., Benneker, W.H.G.M., Meyboom-de Jong, B., Klazinga, N.S. and Schuling, J. (2007), "Motives and preferences of general practitioners for new collaboration models with medical specialists: a qualitative study", *BMC Health Services Research*, Vol. 7, p. 4.

Berendsen, A.J., de Jong, G.M., Meyboom-de Jong, B., Dekker, J.H. and Schuling, J. (2009), "Transition of care: experiences and preferences of patients across the primary/secondary interface-a qualitative study", *BMC Health Services Research*, Vol. 9, p. 62.

Berendsen, A.J., Benneker, W.H.G.M., Schuling, J., Rijkers-Koorn, N., Slaets, J.P.J. and Meyboom-de Jong, B. (2006), "Collaboration with general practitioners: preferences of medical specialists – a qualitative study", *BMC Health Services Research*, Vol. 6, p. 155.

Bowling, A. and Redfern, J. (2000), "The process of outpatient referral and care: the experiences and views of patients, their general practitioners, and specialists", *British Journal of General Practice*, Vol. 50 No. 451, pp. 116-20.

Bridger, S. and Cairns, S.R. (1996), "Survey of general practitioners' views of consultants' non-urgent referral of outpatients to other consultants", *British Medical Journal*, Vol. 312 No. 7034, pp. 821-2.

Capaciteitsorgaan (2005), *Capaciteitsplan 2005 voor de medische en tandheelkundige vervolgopleidingen en Advies 2005 voor de initiele opleiding geneeskunde*, Capaciteitsorgaan, Utrecht.

Cardin, F., Franco-Novelletto, B., Fassina, R. and Sturniolo, G. (2004), "How do general practitioners rate their relationship with gastroenterologists?", *Digestive and Liver Disease*, Vol. 36 No. 5, pp. 315-21.

Dijkstra, R.F., Braspenning, J.C., Uiters, E., van Ballegooie, E. and Grol, R.T. (2000), "Perceived barriers to the implementation of diabetes guidelines in hospitals in The Netherlands", *Netherlands Journal of Medicine*, Vol. 56 No. 3, pp. 80-5.

Garasen, H. and Johnsen, R. (2007), "The quality of communication about older patients between hospital physicians and general practitioners: a panel study assessment", *BMC Health Services Research*, Vol. 7, p. 133.

Glintborg, B., Andersen, S.E. and Dalhoff, K. (2007), "Insufficient communication about medication use at the interface between hospital and primary care", *Quality and Safety in Health Care*, Vol. 16 No. 1, pp. 34-9.

Hood, S., Parsons, S. and Fulop, N.J. (1999), "Shifting care: GP opinions of hospital at home", *British Journal of General Practice*, Vol. 49 No. 440, pp. 221-2.

Kasje, W.N., Denig, P., de Graeff, P.A. and Haaijer-Ruskamp, F.M. (2004), "Physicians' views on joint treatment guidelines for primary and secondary care", *International Journal for Quality in Health Care*, Vol. 16 No. 3, pp. 229-36.

Marshall, M.N. (1998a), "How well do general practitioners and hospital consultants work together? A qualitative study of cooperation and conflict within the medical profession", *British Journal of General Practice*, Vol. 48 No. 432, pp. 1379-82.

Marshall, M.N. (1998b), "Qualitative study of educational interaction between general practitioners and specialists", *British Medical Journal*, Vol. 316 No. 7129, pp. 442-5.

Marshall, M.N. (1999), "How well do GPs and hospital consultants work together? A survey of the professional relationship", *Family Practice*, Vol. 16 No. 1, pp. 33-8.

Marshall, M.N. and Phillips, D.R. (1999), "A qualitative study of the professional relationship between family physicians and hospital specialists", *Professional Geographer*, Vol. 51 No. 2, pp. 274-82.

Muysken, J., Kenens, R.J. and Hingstman, L. (2006), *Cijfers uit de registratie van huisartsen – peiling 2006*, NIVEL, Utrecht.

Nunnally, J.C. (1967), *Psychometric Theory*, McGraw-Hill, New York, NY.

Pena-Dolhun, E., Grumbach, K., Vranizan, K., Osmond, D. and Bindman, A.B. (2001), "Unlocking specialists' attitudes toward primary care gatekeepers", *Journal of Family Practice*, Vol. 50 No. 12, pp. 1032-7.

Salerno, S.M., Hurst, F.P., Halvorson, S. and Mercado, D.L. (2007), "Principles of effective consultation: an update for the 21st-century consultant", *Archives of Internal Medicine*, Vol. 167 No. 3, pp. 271-5.

Schoen, C., Osborn, R., Doty, M.M., Bishop, M., Peugh, J. and Murukutla, N. (2007), "Toward higher-performance health systems: adults' health care experiences in seven countries", *Health Affairs (Millwood.)*, Vol. 26 No. 6, pp. 717-34.

Streiner, D.L. and Norman, G.R. (2003), *Health Measurements Scales: A Practical Guide to their Development and Use*, Oxford University Press, Oxford.

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